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EXECUTIVE SUMMARY

COLLOM GULCH STUDY AREA

Resource and Potential Reclamation Evaluation

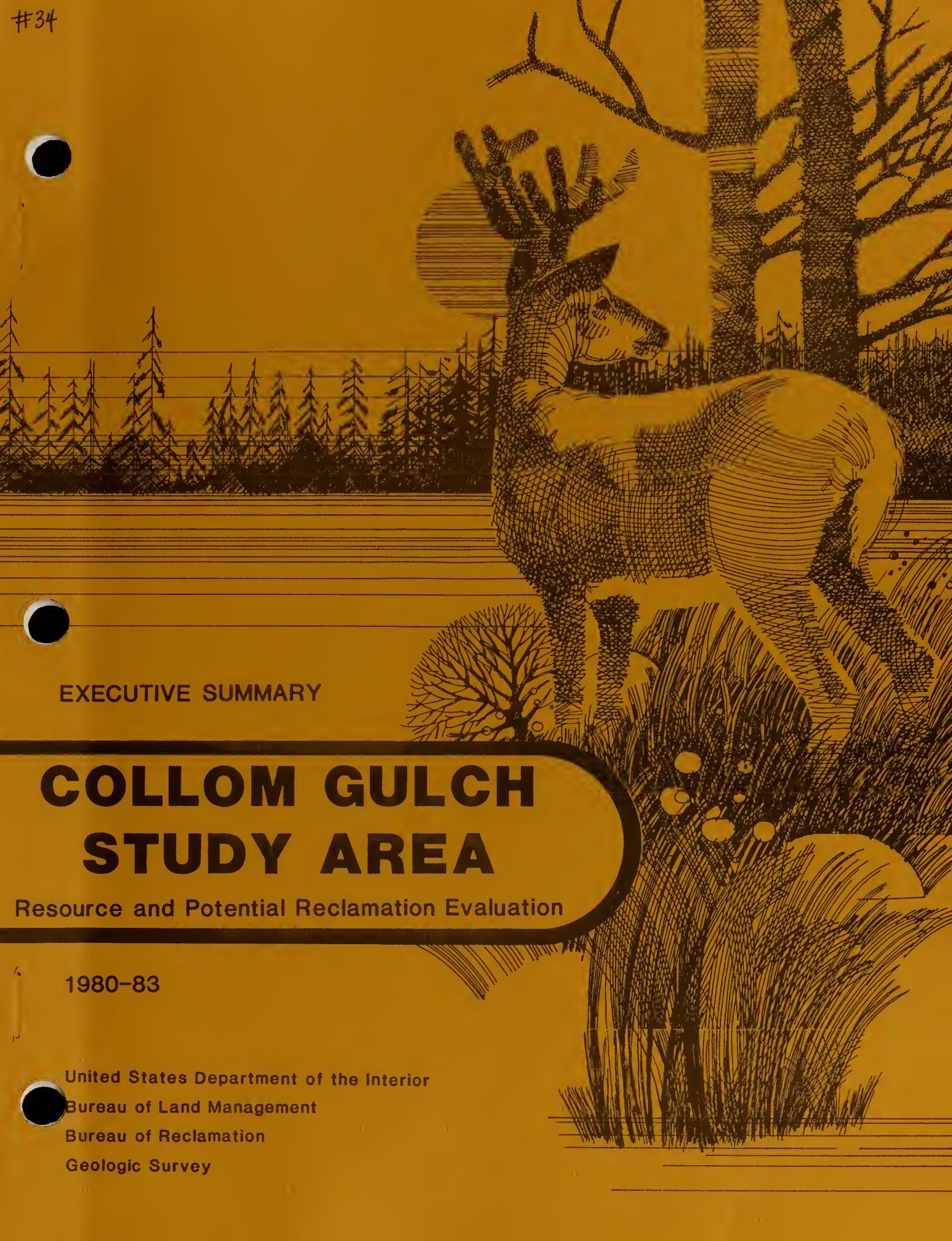
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16. ABSTRACT The executive summary report briefly describes the resource and potential reclamation evaluation of the Collom Gulch study area of northwestern Colorado. The report shows the land surface and mineral ownership status at the time of the study of the Collom Gulch study area. A brief description of the site is presented which includes climate, geology, coal resources, soil and overburden, land classification, vegetation, wildlife habitat, and hydrology. It also includes a summary of potential reclamation problems and recommended reclamation measures.		
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Introduction

Recent energy shortages have shown us the importance of being more self-sufficient in energy production. These shortages have focused the attention of the Nation on the extensive, high quality coal reserves of the Western States.

The Federal Coal Management Program is a recognition of our needs to develop these energy resources without adversely affecting the quality of air, water, soil, vegetation, and wildlife of the affected area.

It is the responsibility of the Department of the Interior and principally the Bureau of Land Management (BLM) and the Office of Surface Mining (OSM), to assist in meeting the increasing demand for energy, while providing adequate protection of the environment.

Purpose of Study

The purpose of this study was to gather baseline data to determine the feasibility of post-strip-mining reclamation of the Collom Gulch study site. This study included research on the soils, geology, climate, hydrology, physiography, topography, vegetation, and wildlife resources of the study site. This summary presents a brief, nontechnical discussion of these studies. More detailed backup data are found in the main report and appendices.

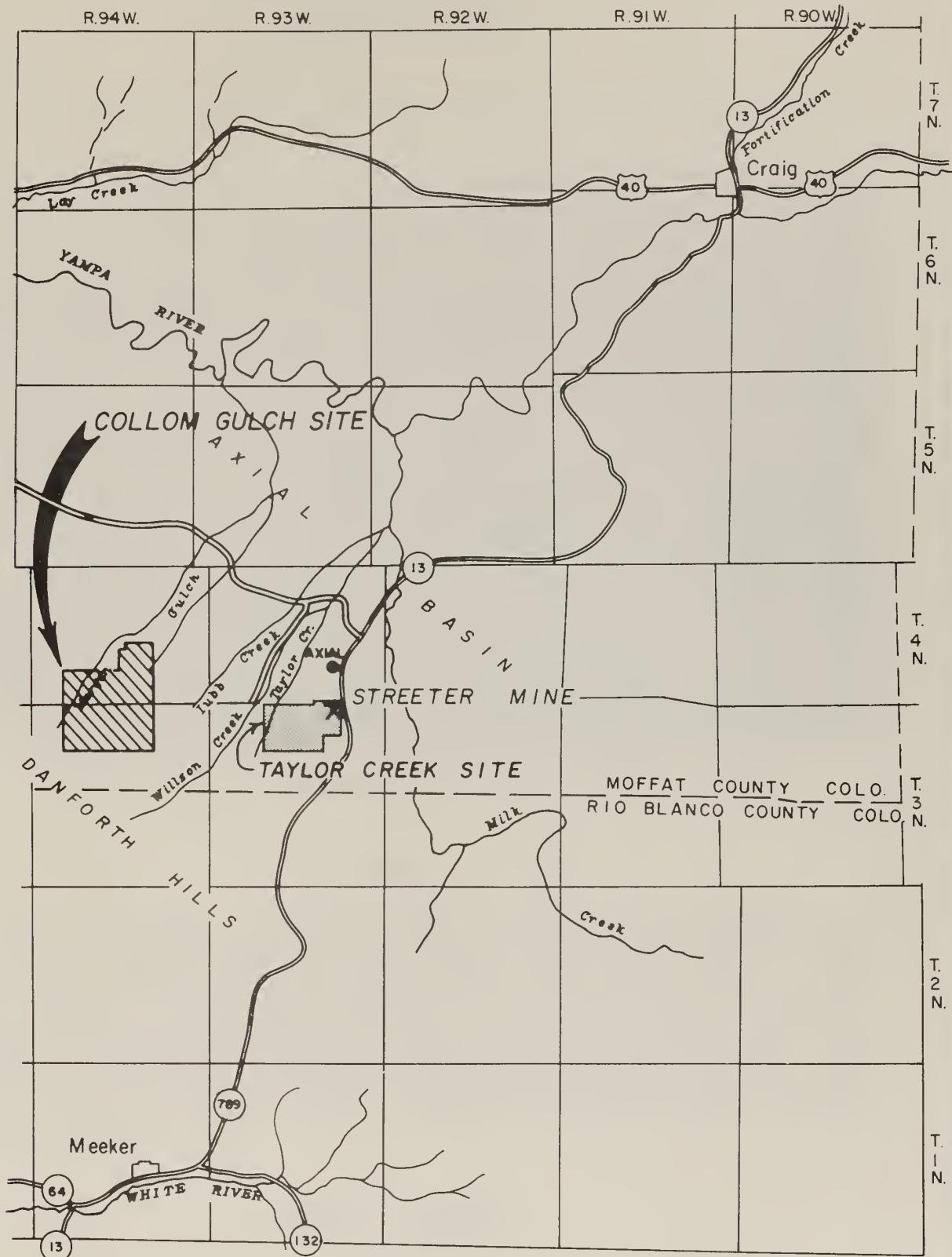
Location and Description

The Collom Gulch study site is located in northwestern Colorado, approximately 35 miles southwest of Craig, the county seat for Moffat County. The study area comprises approximately 5,414 acres and includes all or part of secs. 3, 4, 5, 8, 9, and 10, T. 3 N., R. 94 W., and secs. 27, 32, 33, and 34, T. 4 N., R. 94 W.

The study site lies approximately 6 miles west of Axial, Colo. Elevations range from 6,700 to 8,200 feet above sea level. The main surface drainage is via Morgan Gulch, Straight Gulch, and Collom Gulch. The map on the following page shows the general location of the study site.

It is located south of the Axial Basin in the southern part of the Wyoming Basin Physiographic Province of the Rocky Mountain Region.

The Collom Gulch study area is characterized by rolling hills; moderately sloping, broad ridgetops; and steep canyons. Narrow V-shaped valleys are cut between the ridgetops.



COLLOM GULCH SITE
GENERAL LOCATION

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The ownership map of the study site is presented on the following page and shows the surface and mineral ownership of the area.



View looking north over the broad, rolling ridgetops and long, narrow drainages of Morgan Creek.

Climate

The Collom Gulch study site, located in the Axial Basin region of northwestern Colorado, has an arid/semiarid continental climate. The area's mean annual precipitation is between 16 and 18 inches, varying with elevation. The winters, when most of the precipitation falls as light, powdery snow, are cold with extremes well below zero. Summers are mild with occasional hot spells accompanied by dry, moderate winds. The frost-free period at the site is estimated at 90 days. The growing season for hardy crops and native vegetation is about 138 days in the Axial Basin area.

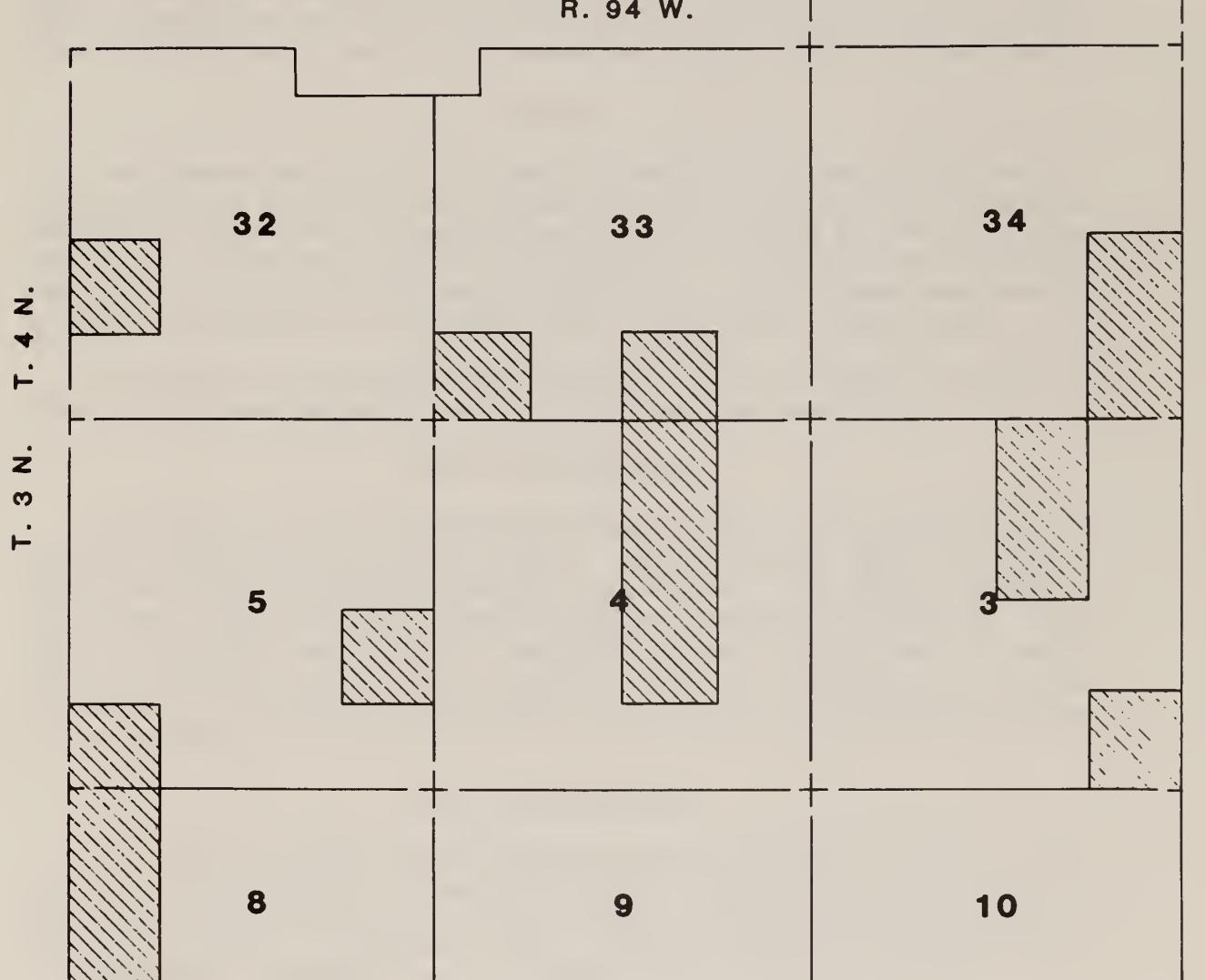
Resource Analysis

Geology

Geologically, the site is part of the Axial Basin in the southern part of the Wyoming Basin Physiographic Province of the Rocky Mountain System. The Danforth Hills, the southern boundary of the site, form an arbitrary dividing line between the Wyoming Basin and the Colorado

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COLLOM GULCH SITE



EXPLANATION



- Federal Lands--Federal Minerals
----- Private Lands--Federal Minerals

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Plateau provinces. The area is characterized by long, gentle slopes which extend from the Danforth Hills northward to the Axial Basin. The drainages are parallel stream courses which head in the Danforth Hills. The general topography varies from steep canyons and gullies to gentle, northeastward, dipping slopes.

At the site, elevations range from about 6,700 to 8,300 feet above sea level.

Exposed rock in the general vicinity of the study site is sedimentary in origin and Cretaceous and Tertiary in age. The principal geologic formations include the Mancos Shale, which underlies the study site at depth, and the Iles and Williams Fork Formations of the Mesaverde group. This group is made up of sandstone, shale, siltstone, and coal.

Coal

Coal resources in the area are expressed by the many observed coal seams noted in the drilling program of both the Bureau of Reclamation and the United States Geological Survey. Coal found in the five holes drilled by the Bureau of Reclamation ranged in thickness from thin partings to an 11.5-foot-thick seam in Drill Hole 3. No attempt was made to estimate the quantity of the onsite coal resource for this report.

Selected coal samples were submitted to the Geological Survey in Denver for determination of rank, Btu, and ash content.

Soil and overburden

The soils in the area have developed under a semiarid climate of sparse to moderate vegetative cover. Surface soils vary in texture, color, and depth depending upon their position. Generally, they are clay loam to clay with some areas of sandy loam and loam texture. Subsoils are predominantly clay. They are lighter in color and are moderately calcareous. A soil rating or classification was made of the soils of the area to express or show their suitability as a stockpiled medium for revegetation.

Land classification

The classification specifications used were similar to those developed for the Bureau of Reclamation's arable land classification used for irrigation development. The classification takes into consideration the following factors: texture, depth, salinity, sodicity, permeability, available water holding capacity, erodibility, and topography.

The land was classified into four classes--three suitable classes (1, 2, and 3) and one unsuitable class (class 6). Class 1 lands are highly suitable and the best source of planting media. They are over 3 feet in depth, have no restrictions, and occupy approximately 1 percent of the area. Class 2 lands have slight limitations and are less suitable as a source for plant growth media. They are usually shallower or have

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some other slight deficiency which makes them less suitable than class 1 lands. They make up 27 percent of the study site.

Class 3 lands have limitations as to their suitability, the most serious deficiencies being shallow depths, steep topography, salinity, and surface rock or gravel. They are suitable as a plant growth media and occupy 15 percent of the area. Class 6 lands are unsuitable as plant growth media because of their physical or chemical properties. They occupy 57 percent of the Collom Gulch site.

There should be adequate plant growth media to facilitate reclamation of the strip-mined areas to support revegetation of the site.

Vegetation

The vegetation was mapped into six range sites. Differences in environmental factors, predominantly climate, position (topography), and soils result in different plant communities.

Wildlife habitat

The study area provides habitat for a variety of wildlife species including mule deer, elk, coyotes, hawks, sage grouse, eagles, and ducks. The area has been identified as a critical winter range area for deer and elk.

Hydrology

Major drainages at the Collom Gulch site include, from west to east, Morgan Gulch (its main tributary), Straight Gulch, and Collom Gulch. Surface and ground water hydrologic data are limited. Appendix G, Surface Hydrology, and Appendix H, Ground Water, are U.S. Geologic Survey, Water Resources Division, open file reports and are present as appendices to the main report.

Summary of reclamation problems and recommended measures

The feasibility for reclamation and revegetation of the Collom Gulch study site will depend on a number of factors including climate, soil and overburden, hydrology, topography, and management practices. The information gained in this study indicates there is an opportunity, using good management and control measures, to successfully revegetate and reclaim the surface-mined areas of the Collom Gulch site and return it to its present land use.

Good seedbed preparation, cultural practices, and a well balanced fertilization program will have to be applied to ensure the revegetation of the study area.

The adequate annual precipitation, with a high percentage of it occurring during the growing season, will increase the chances of

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successful reclamation of the area. There will still be problems in revegetating the area, and multiple seedings of native and adapted species will increase the success of establishing good stands of desirable vegetation with the adequate but limited stockpiled plant growth medium available.

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